Remarks

Claims 1, 2, 12, 14, 15, 16 and 18 are rejected under 35 U.S.C. §103 as obvious over Hand (WO 2000/62731) in view of Shirandami, G.B. Patent Number 2387321. Claims 4, 5, 6, 7, 8 and 17 are rejected further in view of Robinson, G.B. Patent Number 2324738. Claims 9, 10, and 11 are rejected in view of Hand, Shirandami, and also Laaksonen, U.S. Patent Number 6061853.

The independent Claims have been amended to further distinguish the instant invention from the prior art. Support for the location of the bed tray (i.e. between the adjustable bed and a mattress supporting the bed-ridden person) is found in the specification, ¶8 which reads: "[i]n normal use, the base tray is placed between the panels of an adjustable bed and the mattress." The limitation that the bed tray will carry the mattress and the bed-ridden person is found in ¶44 which indicates that the base tray is used to "wrap the mattress around the person to form a shielding cocoon of mattress material." Support for the limitation that the panels of the bed tray have the same number of panels of the bed is found in the specification which reads that "base tray has the same number of panels as the bed." ¶8.

Applicant's Invention

The instant invention provides a device to evacuate, and a method of evacuation of a bed-ridden person recuperating on an adjustable bed. The invention comprises a bed tray capable of two configurations. In a first, or unlocked, panels of the bed tray move in registration with the underlying adjustable bed panels. While the panels allow movement, they form the bed tray placed below the mattress, but above the adjustable bed panel. Consequently, unlike a device designed purely for transport, the instant invention is consistently with the patient, even in the first configuration during which it does not impede movement of the adjustable bed. In a second, or locked, configuration the bed tray forms a rigid structure capable of supporting the patient and mattress thereby allowing the bed-ridden patient to be safely lifted off the bed without disturbance to the patient.

Combination of Hand and Shirandami
Fails to Create a Bendable Tray and
Does Not Result in the Instant Invention

Examiner indicates that a combination of Hand and Shirandami results in all of the limitations of the instant invention. Even assuming that such a combination was possible, the

resulting device would not teach all of the limitations of the instant invention.

Turning first to Hand, the panels disclosed there are strikingly different from the panels of the instant invention. Hand's panels pivot open to provide access to the patient whilst the patient is in the prone (i.e face down) position. See Hand page 7, lines 19-30. In lieu of acting as a bed tray as in this invention, the panels of Hand move separately from one another and separately from the outer frame of the support. See Hand page 7, lines 26-27. In the instant invention, the panels maintain a continuous surface for the bed tray. The panels are transverse fold lines which move, but do not separate from one another. Further, there is no outer frame in the instant invention. The absence of a rigid frame surrounding the panels allows the instant invention to move along with the adjustable bed sections.

As presently claimed, the instant invention includes locking of the panels. Use of separate pivoting panels of Hand would significantly complicate the locking of the bed tray. There is no disclosure in Hand of how the individual panels may be locked together. More importantly, there is no teaching in Hand that the panels could be locked so as to support the weight of a bed-ridden patient.

Further, the placement of the support surface 162 of Hand in the same location as is currently claimed in the instant invention would defeat the purpose of the pivoting panels of Hand. As is currently claimed in the instant invention, the bed tray (allegedly equivalent to the support surface 162 of Hand) is located above the bed and *below* the mattress. The support surface of Hand contains panels, which are intended to "provide access to the patient." Hand, p. 7, lines 29-30. If the panels as taught by Hand were introduced into the instant invention, they would cease to function inasmuch as they would not provide access to the patient, but rather they would provide access to the underside of the *mattress*. Shirandami does not teach any modification which would allow the panels as taught by Hand to maintain their patient access purpose while the support surface of Hand is used pursuant to the instant invention.

The inapplicability of the Hand reference to the instant invention is more apparent when the purpose of the Hand reference is considered. The patient bed of Hand is designed so as to put a restrained patient in a face-down or prone position. The Hand device teaches a number of manipulation mechanisms, such as hydraulic cylinders 62 and hydraulic fluid lines and sources. Hand p.5 lines 12-23. The patient contacts the Hand device via a surface 162, but this surface is not used to evacuate the patient inasmuch as Hand's support surface is latched unto the frame.

Hand p. 7, lines 21-23. In fact, should the latches 160 of Hand's device not function properly, a top surface 184 is provided to support the patient and prevent a fall. Hand p. 8, lines 17-19. Hand teaches that its various elements, i.e. hydraulics, latches, fail-safe surfaces are necessary to achieve its purpose of providing a patient bed. None of these elements are found in the instant invention, which provides a patient evacuation bed while saving the complexity of the Hand structure. Nothing in Shirandami teaches how to transform Hand's system into the instant invention.

Examiner indicates that Hand teaches a bed tray having three fold lines and therefore four panels, as is claimed in the instant invention. Applicant respectfully submits that Hand's invention is divided into only *two* sections (a back section 262 and a seat section 264) and that the two sections do not move in a way that would allow the use of the Hand invention in register with opposing panel regions comprising an adjustable bed. Instead, as is shown in FIGS. 11-13 and described in Hand p. 10, lines 1-6, an actuator 266 allows the pivot joint 268 to move in only one direction. The panels of the instant invention are not limited to movement in only one direction, as is the case in Hand. Instead, the panels of the instant invention move in the same direction as the underlying panels comprising the adjustable bed supporting the patient and therefore the instant invention does not require separate actuators and pivots as is the case in Hand.

Finally, Hand's panels do not teach the four panels of the instant invention since Hand's panels are surrounded by a frame. Specifically, Hand teaches that its panels are "selectively pivotable relative to the outer frame 164." Hand p. 7, lines 26-27. The absence of a separate frame in the instant invention allows the bed tray of the instant invention to move in concert with the adjustable bed. The inclusion of a surrounding frame would prevent the instant invention from functioning in that the frame would prevent the tray from moving with the bed. If the instant invention incorporated a frame as Hand does, the frame would remain rigid and prevent movement of the underlying adjustable bed.

Applicant respectfully submits that important features of the instant invention are not suggested or disclosed by Hand, even in conjunction with Shirandami. The Shirandami invention comprises a foldable transfer board with a sliding surface intended to allow a disabled person to slide from one piece of furniture to another. As shown in FIG. 1, the Shirandami invention does not comprise four panels which are adapted for use on an adjustable bed. Instead,

the panels pivot separately from one another, even folding completely to allow for easy storage and movement of the assembly. Shirandami p. 1, ¶2.

The Examiner alleges that the Shirandami reference discloses the locking mechanism of the instant invention. Applicant respectfully disagrees. While the Shirandami reference discusses a bolt assembly, the operation of the locking mechanism is strikingly different from the instant invention. In the instant invention, when the weight of the patient is applied to the main patient bearing surface, the panels continue to move in response to a changing adjustable bed. In the Shirandami reference, the transfer board locks in place once the weight of a person is applied to the transfer board. Specifically, Shirandami teaches that "the bending movement at the joint caused by the user's weight bearing on the sliding surface....is resisted by couple force F at a distant d, acting at the connecting rod and centroid of the bearing surfaces." Shirandami, p. 4, ¶3. Further, once the Shirandami slide board is opened, it locks in place. Shirandami, p. 5, ¶1. The application of the teachings of Shirandami with those of Hand would not result in the instant invention. Instead, to the extent the two references are combinable, the resulting apparatus would not be compatible with adjustable beds inasmuch as it would lock into a flat configuration once a patient's weight is applied. The instant invention continues to bend even when the patient's weight is applied to its surface (i.e. at a time when the patient is lying on an adjustable bed).

Also, neither Hand nor Shirandami alone, or in combination, teach panels in registration with adjustable bed panels.

Robinson Requires Rigidity and so
Teaches away from The Instant Invention
Which Allows Movement

Examiner rejects claims 4-8 and 17 as obvious in light of Hand, Shirandami and GB Patent 2324738 to Robinson. Specifically, examiner cites Robison for its discussion of wheels and straps. The applicant respectfully disagrees that Robinson can be combined with any other reference to arrive at the instant invention inasmuch as Robison teaches strict rigidity. Further, applicant respectfully submits that the wheel and strap assembly of Robison are not the same as the instant invention.

The instant invention is designed for use in conjunction with adjustable beds. Therefore, the instant invention does not require that the bed tray be rigid all the time. Instead, the bed tray

of the instant invention allows for bending along pressed seams and therefore independent movement of panels whenever the tray is superimposed over an adjustable bed. Robinson, on the other hand requires constant rigidity. A lack of rigidity is cited by Robinson as one of the drawbacks of prior art devices. Robinson p. 1, ¶3. Robinson teaches rigidness even as the base tray sits upon the bed ("rigid base tray as it lies on the top surface of the bed"). Robinson p. 4, ¶2. Finally, Robinson outright states that the "rigidity of the base tray is of fundamental importance to the invention." Robinson p. 5, ¶1.

Combining the rigid Robinson bed tray, with any other reference, such as Hand or Shirandami results in a rigid bed tray, which would impede movement of adjustable beds. The instant invention rejects constant rigidity and is therefore compatible with reclining adjustable beds.

The Examiner indicates that the wheel assembly of the instant invention is disclosed by Robinson. Even presuming that Robinson was applicable to an invention that does not rely on a rigid base tray, the wheels disclosed in Robinson are different from the wheels of the instant invention. As currently claimed in claim 5, the wheels of the instant invention are inserted into channels created in the sheet forming the base tray. Robinson, in order to achieve its overarching goal of rigidity, does not teach insertion of wheels into the patient-contact bed tray. Instead, it teaches a bed tray having a lower layer (or base unit) of various shapes and a flat patient contact layer. The various shapes of the bottom layer of Robinson are disclosed in Robinson Figures 56-59 and discussed on pages 18 and 19. In its discussions of wheels and other movement assemblies, Robinson does not teach that the wheels could be added to the underside of the patient contact structure. Inasmuch as Robinson is concerned with maximizing rigidity, Robinson requires that all wheels be placed on the separate base unit. Another view of the base-unit assembly is found in Figures 77-79, clearly showing a bed tray having two layers with the wheels attached to the base unit. Contrary to the teachings of Robinson, the instant invention teaches an adjustable bed tray with wheels that omits the required base unit.

Finally, nothing in Robinson teaches or suggests that the wheels be retractable, as is currently claimed in new claim 20. Support for new claim 20 is found in ¶16 of the published specification.

The Examiner suggests that the straps of the Robinson reference are similar to the straps of the instant invention. However, the straps of the Robinson reference are attached to the rigid

base tray. Robinson p. 3, ¶1. Since the base tray of the instant invention is not rigid, applicant respectfully submits that the straps of the instant invention are different from those in Robinson.

Consequently, applicant respectfully submits that the rejection in light of Robinson has been obviated and requests the withdrawal of Robinson as a prior art reference.

Laaksonen or Johnson Do Not Provide
Teaching to Convert Hand and Shirandami
Into the Instant Invention

Laaksonen does not suggest a base tray having four panels formed from a suitable bed tray. Laaksonen suggests a lateral hinge hot pressed into the patient carrier. Since the Laaksonen design also requires the plastic tubes inserted into the sides of the carrier to be likewise interrupted. See Laaksonen Col. 1, lines 9-17. The instant invention, however, requires four panels (a limitation found in claim 1, for instance). If the Laaksonen tray were to comprise four panels, the carrier bars would likewise comprise four parts. Consequently, the carrier bars would not be able to hold the weight of the person. The instant invention does not rely on external carrier tubes. Instead, it uses an integral tray.

The use of an integral sheet in the instant invention is taught away from Laaksonen and the remaining references. Laaksonen teaches use of the plastic poles which would cease to function for their intended purpose (i.e. support of patient during conveyance) with the fragmentation of the bed tray into four panels, as is currently listed in the claims of the application.

Inasmuch as Laaksonen cannot be converted into a four-panel design without defeating the stated purpose of the Laaksonen invention. Consequently, the combination of Laaksonen with another reference such as Hand and Shirandami cannot result in the instant invention. Applicant requests withdrawal of Laaksonen.

Finally, the Examiner cites a combination of Hand and Shirandami along with U.S. Patent 4686719 to Johnson in order to reject claim 13 as obvious.

Johnson teaches a patient conveyance means strikingly different from the instant invention. Notably, the Johnson system requires that a plenum chamber be formed by "top and bottom thin flexible sheets" which is in turn "pressurized by low pressure air, the underlying sheet is in contact over the complete extent of the pin holes with the generally planar support surface." Johnson col. 1, lines 35-48. The instant invention uses the same bed tray as the patient

carrying surface with no plenum chamber. There is no teaching in Johnson that the plenum chamber can be formed using a solid bed tray. Applicant respectfully submits that in order to form a chamber within the patient carrying surface, multiple layers are required. Johnson teaches this and provides no means to achieve its purpose without multiple layers.

Consequently, inasmuch as Johnson cannot use a bed tray, it teaches away from the instant invention and is obviated.

New claim 19 is designed to further differentiate the instant invention from the prior art. Specifically, the new claim 19 covers use of the bed tray in conjunction with an adjustable bed. For the reasons explained above, none of the prior art patient transport devices may be used with an adjustable bed in this manner.

If the Examiner feels that a telephonic interview will facilitate allowance or further expedite prosecution, he is respectfully urged to contact the undersigned, prior to the issuance of another Official Action.

Respectfully submitted,

CHERSKOV & FLAYNIK

/Szymon M. Gurda/

By:_____
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